

NASA HQ Hardware/Software Tech Refresh Process

Software and hardware refresh are accomplished separately and are predicated on existing initiatives and formalized documents established by the NASA Chief Information Officer (CIO) as well as by the HQ CIO, by the HQ ADP/T Board of Directors, and the HQ ADP/T Customer Advisory Committee (CAC). These documents exist in the form of Executive Notices (CIO) and approved Strategic and Tactical Initiatives (Board of Directors and CAC).

The NASA CIO "Information Resources Strategic Plan" establishes several elements which affect hardware and software refresh, to wit:

- Establishes a NASA information architecture.
- Establishes a NASA information technology standards program.
- Implements a life cycle process for information resources (software, hardware and data).

The HQ CIO "Information Technology Tactical Plan" establishes several additional elements which also affect hardware and software refresh, to wit:

- Establishes a minimum standard set of commercial off-the-shelf hardware and software products for office automation.
- Further establishes a standard core product suite for office productivity and an additional standard core product suite for internet connectivity.

This latter element of the HQ IT Tactical Plan also calls for NASA Code CI to establish vendor relationships specifically to keep abreast of new versions of software and hardware in advance of their commercial release. Through this relationship, the IT Tactical Plan calls for upgrade programs to the hardware and software when those upgrades will be cost-effective and when those upgrades offer value-added enhancements over what is available in the current suite.

To this end, the IT Tactical Plan also calls for the use of the Systems Engineering Facility (SEF) for testing upgrade versions of deployed software and new hardware to ensure the benefits of the value-added performance and to minimize the wasted effort associated with selecting the wrong product (either software or hardware).

The CIO Executive Notices establish several additional elements which affect the refresh. CIO Executive Notice 03-95 establishes the conditions for technology obsolescence management. This notice also establishes a methodology by which all equipment will be reduced to a life-cycle age of three years and maintained through existing budgets at that level.

CIO Executive Notice 07-95 Rev. 1 establishes a minimum set of hardware specifications which are to be used for the purchase of new hardware. This Executive Notice defines a maximum period of six (6) months between reviews of the hardware configuration by the NASA Lead Center for Workgroup Hardware (Glenn Research Center).

The process, then, involves an interaction between Headquarters Code CI and the principal Centers (so designated by the NASA CIO). The principal Centers are required, as part of their expert status, to maintain a current relationship with software and hardware vendors to keep abreast of upgrades to existing software and hardware. That knowledge, coupled with the use of the Systems Engineering Facility at Headquarters, enables Code CI to determine if software and/or hardware upgrades will work in the existing and planned HQ environment and with our existing deployed software and hardware. The costs of upgrading software and hardware are line items in the Headquarters IT budget, which estimates costs for software and hardware maintenance based on anticipated upgrades for hardware (planned, as per CIO notices), as well as software licenses, which include maintenance updates and/or major upgrades.

NASA HQ has implemented an automated desktop software refresh process using Microsoft Systems Management Server 1.2 (SMS). COTS, GOTS and Custom Applications are scripted for automatic installation. Applications are deployed to user desktops via SMS packages.